1. Record Nr. UNINA9910300370603321

Autore	Hopkins Jeffrey L
Titolo	Using Commercial Amateur Astronomical Spectrographs [[electronic resource] /] / by Jeffrey L. Hopkins
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-01442-0
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (309 p.)
Collana	The Patrick Moore Practical Astronomy Series, , 1431-9756
Disciplina	5201.2093469
Soggetti	Observations, Astronomical Astronomy - Observations Astronomy Spectroscopy Microscopy Astronomy, Observations and Techniques Popular Science in Astronomy Spectroscopy and Microscopy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	From the Contents: Part I Introduction to Spectroscopy -- Spectroscopy Theory -- Astronomical Spectroscopy Theory -- Part II Using Amateur Spectrographs -- Equipment -- Taking Spectra -- Low Resolution Spectroscopy with a Star Analyser -- High Resolution with a Lhires III 2400/600 line/mm gratings -- Part III Spectrum Processing Software -- DIY (Excel) -- RSpec -- Vspec.
Sommario/riassunto	Amateur astronomers interested in learning more about astronomical spectroscopy now have the guide they need. It provides detailed information about how to get started inexpensively with low-resolution spectroscopy, and then how to move on to more advanced high-resolution spectroscopy. Uniquely, the instructions concentrate very much on the practical aspects of using commercially-available spectroscopes, rather than simply explaining how spectroscopes work. The book includes a clear explanation of the laboratory theory behind astronomical spectrographs, and goes on to extensively cover the

practical application of astronomical spectroscopy in detail. Four popular and reasonably-priced commercially available diffraction grating spectrographs are used as examples. The first is a low-resolution transmission diffraction grating, the Star Analyser spectrograph. The second is an inexpensive fiber optic coupled bench spectrograph that can be used to learn more about spectroscopy. The third is a newcomer, the ALPY 600 spectrograph. The fourth spectrograph considered is at the other end of the market both in performance and cost, the high-resolution Lhires III. While considerably more expensive, this is a popular and excellent scientific instrument, that allows more advanced amateur astronomers to produce scientifically valuable data. With all of these tools in place, the amateur astronomer is well-prepared to forger deeper into the night sky using spectroscopy.